



February 11, 2020

The Senate Education, Health and Environmental Affairs Committee
In support of SB 300: Pesticides – Use of Chlorpyrifos – Prohibition

Chairman Pinsky, Vice Chairman Kagan and members of the committee:

Thank you for this opportunity to testify in support of SB 300. My name is Jaime Brown and I am the President of the Learning Disabilities Association (LDA) of Maryland.

Learning disabilities and attention disorders can affect a person's ability to read, write, speak, or complete math and can impair one's ability to build social relationships. On average, it costs twice as much to educate a child with a learning or developmental disability as it does to educate a child without one. Adolescents with learning disabilities are much more likely to drop out of high school, have problems with substance abuse, and wind up in the juvenile justice system. High school graduates with learning disabilities are much more likely to be unemployed and have trouble keeping a job.

As the mother of three children with learning disabilities (LD), I am all too aware of the challenges for LD children and their families. As you have heard from public health experts today, exposure to chlorpyrifos even at a low dose, can result in life-long serious learning disabilities.

My 16 year old son, **Arvin** for example, has always struggled with his learning disability. Through the years he has been teased, bullied, and even called lazy and stupid. At the age of 11 year-old he wanted to drop out of school and went into a deep depression. As a mom, seeing him and my other two children suffer in this way has been heartbreaking, and the heartbreak doesn't go away.

My 25 year-old son Henry has a LD, and struggles with finding and maintaining meaningful employment. My other daughter with LD struggles daily with low self-esteem and has difficulties expressing thoughts, learning words, and spelling – all things that many of us take for granted. Unfortunately, all three of my children will struggle and have challenges because of their learning disabilities for the rest of their lives.

I spent years fighting for my children and other children with LD to address the school system's failings in not meeting children with LD needs. There is not a day that goes by that my children – and all children and adults with LD – aren't impacted by their disability.

I also want to share the story of a LDA colleague in Illinois, Penny Richards. Penny raised her family on a farm in Plainfield, Illinois. The farm was surrounded by corn and bean fields that were regularly sprayed with pesticides. Chlorpyrifos is often used for corn and bean related pest challenges. As we now know, chlorpyrifos used on crops like corn and beans can neurologically harm babies. Penny's son, now an adult, has a learning disability that presented challenges throughout his life, but especially when he was young as he was struggling in school. She still wonders if her exposures to pesticides, that likely included chlorpyrifos, that were sprayed on those fields while she was pregnant resulted in his learning disability. This is not idle speculation. Scientists agree that this pesticide is unsafe for children at any detectable level. Across the nation, over half of all apples and broccoli, as well as other crops like citrus, strawberries and grapes are also treated with it.

There are several factors that cause learning and other neurological disabilities, but we know that one cause is exposure to chlorpyrifos. The good news is that exposure to chlorpyrifos is **preventable**. We need to act now to ensure this exposure stops now to protect future generations.

Chlorpyrifos which is sprayed on fruit and vegetable crops across the country is designed to harm the nervous system – and it does. Scientific studies overwhelmingly find that prenatal and early childhood exposures to chlorpyrifos, even at low levels, disrupt children's brain development and can result in loss of IQ, problems with behavior and attention, and learning and developmental disabilities.

Learning and developmental disorders are the result of a complex interaction of multiple factors, including genetics and environmental exposures. For example, researchers have found that some children have a genetic susceptibility that makes their brains more vulnerable to harm from chlorpyrifos.

We cannot change our genes. **However, we can prevent this neurotoxic pesticide from being sprayed into the air we breathe, the water we drink and the fruits and vegetables we eat.**

Multiple studies show that even very low levels of chlorpyrifos can permanently impair children's cognitive skills. Prenatal exposures are especially worrisome. More than 25 scientific studies show strong associations between a pregnant mother's exposure to chlorpyrifos, and problems with learning and behavior in her child.

Project TENDR (Targeting Environmental Neuro-Development Risks), is a group of nearly 60 leading scientists, health professionals and advocates including LDA, focused on preventing toxic exposures contributing to brain-based disorders in children. Project TE calls out this organophosphate pesticide in their list of chemicals linked to neurological harm. In October 2018, Project TENDR experts published a paper on certain pesticides and their health impacts, and the need for policy action¹. The paper states, ***“Compelling evidence indicates that prenatal exposure at low levels is putting children at risk for cognitive and behavioral deficits and for neurodevelopmental disorders.”***

Prenatal Chlorpyrifos exposure is linked to mental and motor delays when children reach preschool; and decreases in working and visual memory, verbal comprehension and IQ by the time children reach elementary school. Researchers also find that prenatal exposures to chlorpyrifos can increase children's risks for ADHD and autism. Of the organophosphate pesticides, chlorpyrifos shows the strongest association as a risk factor for autism.

Acting on the scientific evidence, EPA banned residential use of this insecticide in 2000, but allowed its continued use in agriculture. **Make no mistake – if chlorpyrifos is too dangerous to be used in our homes and schools, it is certainly too dangerous to spray on our food.**

Chlorpyrifos is widely used in the U.S., sprayed on foods children regularly eat. **EPA has found that all exposures to chlorpyrifos through food exceed safe levels.** Studies show that when chlorpyrifos is sprayed on farm fields, the pesticide is carried into nearby homes and schools, where it collects in indoor air and dust.

National biomonitoring data (NHANES) collected by the U.S. Center for Disease Control and Prevention (CDC), detected chlorpyrifos in more than 91% of women of childbearing age. According to the CDC, this high percentage of detectable levels of chlorpyrifos means that people's exposures are ubiquitous, and likely to be occurring through the food we eat and feed our families. In recent years, multiple studies of pregnant women show chlorpyrifos is present in pregnant women, in umbilical cord blood and in children.

The use of chlorpyrifos on farm fields and crops puts our children and future generations at greater risk of learning and developmental disabilities, attention and behavior disorders.

The science is irrefutable that this pesticide does lasting harm to babies' brains, leaving children, parents and schools struggling to deal with life-long impairments.

I implore the members of this committee to vote to ban the use of chlorpyrifos in our state, without any exemptions. When EPA recommended it be banned, they did not allow for any exemptions as EPA has often done in rare cases where the agency restricted the use of certain pesticides. We urge you to ensure that all of our children are able to learn and grow to their full potential. Thank you.

Sincerely,

Jaime Brown
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ⁱ Organophosphate exposures during pregnancy and child neurodevelopment: Recommendations for essential policy reforms, PLOS Medicine, October 2018, <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002671>